CHAPTER 1
INTRODUCTION

1.1. Background

Maintaining a healthy body is the duty of each of us, both young and old. To maintain a healthy body can be done in various ways such as exercise and eating healthy foods. Health according to the World Health Organization (WHO) is perfect health, physically fit, free from disease and disability, and spiritually and socially healthy. A person's health can be determined through many factors. To find out whether the health intensity has been reached, an indicator of pulse rate and body temperature that is healthy and in accordance with normal human standards can be used. To know a person's health, one can measure the pulse in certain parts such as the wrist, but this is not necessarily effective and accurate. So body temperature is a vital condition that must be monitored to avoid hypothermia and hyperthermia.

The health monitoring system is a system designed to determine the user's health condition by measuring the pulse and body temperature which is then used as a decision-making parameter by applying fuzzy algorithm using the internet of things (IOT). Fuzzy algorithm is used for decision making from a logic that has a fuzzy value between true or false.

Based on the explanation of the description that has been explained, the author aims to conduct a study entitled "MONITORING OF HEALTH CONDITIONS USING A FUZZY ALGORITHM".

1.2. Problem Formulation

Based on the background that has been described, the formulation of the problem to complete this final project is as follows:

1. How to design and connect Arduino Uno with MLX90614 sensor and pulse sensor to detect body temperature and pulse?

2. How is the implementation of rule-based fuzzy logic in a person's health monitoring system using pulse sensors and MLX90614 sensors?

3. How to design an automatic hand sanitizer to prevent the spread of covid-19?

1.3. Scope

Based on the formulation of the problem that has been described, there are several limitations to the problem of building a system, including the following:

1. The microcontroller used is Arduino Uno.

2. MLX90614 to detect body temperature.

3. Pulse sensor to detect pulse rate.

4. HC-SR04 detects distance to start 5volt pump via relay.

5. Using output: 16x2 i2c LCD.

1.4. Objective

Monitoring the health condition of the object through the parameters of body temperature and pulse to determine the health condition of the object is Sehat, Kurang Sehat, Sakit.